

SPECIFIC MEMORANDUM OF AGREEMENT  
(SMA)

between

The United States Department of Energy (DOE)  
and  
The Power Reactor and Nuclear Fuel Development Corporation of Japan (PNC)

for Joint Development of Remote-Controlled  
Nondestructive Assay Safeguards Techniques for Automated  
Production of Mixed Uranium-Plutonium Oxide (MOX) Fuel

1. Introduction

Under Article II of the Agreement between PNC and DOE for Cooperation in Research and Development concerning Nuclear Material Control and Accounting Measures for Safeguards, DOE and PNC undertake to carry out a cooperative effort on application of remote-controlled nondestructive assay (NDA) techniques to the PNC Plutonium Fuel Production Facility (PFPF), an automated plant for remote production of MOX fuel.

2. Scope of Work

This SMA provides for (1) development and application of remote-controlled NDA systems to the PFPF and (2) identification, development, and application of authentication and tamper indication approaches for the multiplex television surveillance system at the PFPF. The work performed under this SMA shall be performed at the Los Alamos National Laboratory (LANL), Sandia National Laboratories (SNL), and the PFPF in accordance with the terms and conditions of the Agreement.

3. Program Management

LANL is the organization responsible for development of the NDA techniques and equipment and SNL for authentication techniques for containment and surveillance. The work to be done is identified in Appendices I and II and is limited to development of methods, equipment and techniques for safeguards. PNC is responsible for development of remote control for the nondestructive assay equipment and other activities related to the work of LANL and SNL as described in Appendices I and II.

It is understood by the Parties that LANL and SNL are the performers of the development activities to be carried out by DOE. These Laboratories are obligated to comply with the terms and conditions of their management and operating contract with DOE when performing these and all other services for PNC. The use of LANL and SNL and their management and operating personnel in carrying out the work is authorized on a non-interference basis, i.e., the work performed under this SMA shall not interfere with work related to the prime mission of either

Laboratory. Although DOE commitment to this effort is equal to DOE mission programs, DOE programs may, for reasons related to national security or exigency, preempt efforts in support of this SMA. Accordingly, the Government, DOE, LANL, SNL, and persons acting on their behalf shall make best efforts to perform services or furnish information or data hereunder.

PNC agrees to contribute funding for the costs of the development described in Appendices I and II and to establish priorities among tasks within the program. PNC funding shall be provided to the Laboratories by DOE. DOE shall undertake to develop the safeguards equipment and technology on a best efforts basis within the availability of funding.

DOE and its Laboratories shall work directly with PNC in planning tasks and resolving programmatic and technical questions. The Laboratories shall start by developing and circulating a work plan with projected milestones for each task, and update the work plan as the work progresses. In addition, functional specifications shall be originated and circulated at the beginning of work on implementation of each work plan.

Each Laboratory shall prepare brief bi-monthly letter progress reports on each task and circulate them to PNC, DOE, and to other pertinent organizations as requested by PNC.

LANL, SNL, and PNC shall prepare and present written and oral reports at meetings of the PCG established under Article IV of the Agreement.

Each Laboratory shall implement an independent quality assurance and quality control activity for each task.

Unless otherwise mutually agreed, all equipment and test apparatus procured with funds provided by PNC shall be disposed of as directed by PNC.

No publicity releases (including news releases and advertising) relating to this SMA and the work hereunder shall be issued by either Party without prior coordination with the other Party. Any technical paper, article, publication or announcement of advances generated in connection with work done during the period of performance or in the future, shall give credit to PNC as a sponsor of the work and shall contain a mutually agreed disclaimer statement.

As noted in Article XII of the Agreement, all equipment supplied and information transmitted by one Party to the other Party under this SMA shall be appropriate and accurate to the best knowledge and belief of the Supplying and Transmitting Party. The Government, DOE, LANL, SNL, and persons acting on their behalf, shall make best efforts to be sure that the use of any such information or data to be furnished hereunder does not infringe privately owned rights.

#### 4. Fiscal Management

PNC shall make cash contributions with the sum of 2,170,000 in United States dollars to conduct the activities related to the application of safeguards techniques to the PFPF as defined in Appendices I and II of this SMA in the following manner:

- a. A contribution of 1,085,000 in United States dollars shall be due and payable upon receipt of an invoice to be issued upon or shortly after the date of signature of this SMA.
- b. A contribution of 1,085,000 in United States dollars shall be due and payable within 30 days of receipt of an invoice to be issued prior to the end of February 1989.

All contributions by PNC shall be due and payable within 30 days of receipt by PNC of an invoice from DOE.

Other direct costs for a capsule counter are funded by DOE under the U.S. Program of Technical Assistance to IAEA Safeguards (POTAS).

DOE shall be responsible for the budget planning and financial management and shall make best efforts to complete the PNC-funded activities in Appendices I and II satisfactorily and within the cash contributions by PNC. DOE costs are determined in accordance with DOE's policy for costing work it performs for others as set forth in 10 CFR Part 1009. The total cost to PNC for DOE's performance of work under this SMA shall not, without PNC's prior consent, exceed the contributions set forth above.

DOE shall not begin or carry out work prior to entry into force of the Agreement and SMA and receipt of the required payment in advance; and work shall not be continued after funds from PNC have been depleted. Throughout the duration of work under this SMA, PNC shall provide sufficient funds in advance to reimburse DOE for causing the Laboratories to perform the work described in this SMA, and DOE shall have no obligation to perform in the absence of adequate advance funds. Payment in advance from PNC shall be sufficient to cover the expected obligation and cash requirements of the work until a subsequent request for payment in advance can be made, collected, and recorded. In this regard, sufficient advance funds shall be provided to maintain, at a minimum, a continuous 90-day advance of funds for expected DOE fund requirements during the life of this SMA. Advances shall be sufficient to cover expected termination costs that DOE would incur on behalf of PNC.

5. Indemnification

PNC agrees to indemnify and hold harmless the U.S. Government including DOE, LANL, and SNL, and persons acting in their behalf in connection with work under this SMA from all liability, including costs and expenses incurred, resulting from use or disclosure by PNC of any information in whatever form, furnished hereunder.

6. Duration and Termination

This SMA shall enter into force upon the later date of signature, and shall continue in force for a 4 year period, or until mutually agreed by the Parties that all activities under this SMA are completed.

Executed at \_\_\_\_\_ on this 31 of March, 1988.

For the United States Department  
of Energy

Name: F. B. Gilbert

Title: Acting Deputy Assistant  
Secretary for Security  
Affairs

For the Power Reactor and Nuclear Fuel  
Development Corporation of Japan

Name: S. Tanaka

Title: Director Technical  
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